Recommendations to the City of Frankfort from the Mayor's Task Force on Energy Efficiency and Climate Change

Frankfort, Kentucky
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EXECUTIVE SUMMARY

In July 2007 Mayor William May of Frankfort, Kentucky, signed the US Mayors Agreement for Climate Protection and established the Mayor's Task Force on Energy Efficiency and Climate Change. The Task Force was assigned to hold six meetings over the course of three months and bring back recommendations to the City Commission. These recommendations were to outline ways to decrease utility costs and energy use through more efficient operations and conservation, decrease greenhouse gas emissions, and increase education and awareness among the general public. The Task Force was also to recommend best strategies for meeting the City's commitments under the US Mayors Agreement for Climate Protection.

The Task Force studied a wide range of issues related to energy use within City operations and the wider community. The first meeting focused on the topics of energy efficiency and conservation. The Task Force learned about the many opportunities available to the City for saving energy and tax dollars by investing in energy efficiency. The use of Energy Management Plans and Energy Saving Performance Contracts were two of the most important issues discussed. We also heard case studies about successful conservation programs in other cities. Based on the experiences of other Cities, we believe that within one year an Energy Management Plan could save the City 10% of its annual energy expenses, or about $150,000 per year.

The second meeting continued the discussion of energy efficiency and addressed the important role electric utilities can play to help a community reduce its energy use. Representatives of the Frankfort Electric and Water Plant Board attended and joined in the discussion. We learned about the many successful programs that utilities around the country have implemented to help their customers make significant cuts in their energy use. The Plant Board representatives expressed their support for the efforts of the Task Force.

The third meeting focused on the US Mayors Agreement for Climate Protection and the five step plan used by Cities who have committed to this agreement. This plan provides a systematic process for setting goals, identifying measures to be implemented, and monitoring and reporting on results. The plan focuses on achieving measurable results and using lessons learned to improve the program of activities.

The fourth meeting dealt with two important topics, renewable energy and transportation. The Task Force got an overview of the various renewable energy technologies that could be developed in our community, both by large entities like the Plant Board and individual homeowners and businesses. The transportation discussion first dealt with the efforts of WalkBike Frankfort to develop a community-wide plan for improving non-motorized transportation options. The discussion then turned to planning issues that influence energy use on the scale of the whole community. It was clear that, by influencing how much vehicle travel is required by residents, planning and development patterns have long-term effects on the total energy used within the community.

During the fifth meeting the Task Force discussed strategies for effectively implementing the kinds of programs explored by the Task Force. Russ Barnett from the Jefferson County Partnership for a Green Community made a presentation about Jefferson County's efforts to promote sustainability through a partnership among the major public institutions in the County. This was presented as a potential model for how the work of the Task Force could be continued over the long term.

The final meeting of the Task Force was devoted to discussing the recommendations that would be presented to the City Commission and community. There are many measures that could be implemented by the City, other public institutions, and the public to reduce energy use and local greenhouse gas emissions. These measures have the potential to save millions of dollars for local governments, businesses, and residents, while making Franklin County a better place to live and reducing our contribution to climate change. The Task Force has identified four broad recommendations and a set of strategies that will set the community on the path towards reduced energy use and greenhouse gas emissions.

RECOMMENDATIONS

1. **Endorse the US Mayors Agreement for Climate Protection and commit the City to an ongoing effort to increase energy efficiency and reduce greenhouse gas emissions within City operations and the wider community.**

2. **Establish a City Sustainability Coordinator.**

3. **Create a City Energy Team to develop an Energy Management Plan.**

4. **Invite other local institutions to work with the City to create a Partnership for a Green Community and develop a Community Climate Action Plan.**

STRATEGIES FOR REDUCING ENERGY USE AND GREENHOUSE GAS EMISSIONS

A. Encourage the Frankfort Electric and Water Plant Board to play an active role assisting the City and community to reduce energy use and carbon emissions.

B. Utilize Energy Saving Performance Contracts to enable substantial energy efficiency improvements to City facilities.

C. Support the development of renewable energy resources within City operations and the wider community.

D. Specify that all new construction and major renovations of City facilities meets high energy efficiency standards, using the US Green Building Council's Leadership in Energy and Environmental Design (LEED) green building rating system or a similar system as a guide.

E. Use land-use planning as a tool to encourage development, community design, and a transportation system that reduces fuel consumption and dependence on fossil fuels and passenger vehicles.

F. Develop policies and procedures for purchasing and operations that support energy efficiency and environmental stewardship.

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INTRODUCTION

The Mayor's Task Force on Energy Efficiency and Climate Change was established by Frankfort Mayor William May in July 2007, following conversations with local citizens concerned about the need for local action to address climate change and improve energy efficiency in the City and community. These citizens had organized the Frankfort Climate Action Festival on April 14, 2007, one of over 1,400 "Step It Up!" events held that day around the country calling on Congress to take bold action to address climate change. Mayor May, City Commissioner Kathy Carter, and State Representative Carl Rollins spoke at the April 14 event in support of this goal. Following this event Mayor May announced his decision to sign on to the US Mayor's Agreement for Climate Protection and establish the Task Force.

The Task Force was charged with developing recommendations for the City Commission and community. These recommendations would outline ways to decrease utility costs and energy use through more efficient operations and conservation, decrease greenhouse gas emissions, and increase education and awareness among the general public. The Task Force was also to recommend best strategies for meeting the City's commitments under the Mayor's Agreement for Climate Protection.

Mission Statement of the Mayor's Task Force on Energy Efficiency and Climate Change

Recognizing the importance of energy efficiency and conservation as a means to reduce operational costs and contribute to a healthier environment for our community and future generations; and acknowledging the serious threats posed to our community and the wider world by climate change; and recognizing the major role our patterns of energy use play in driving climate change; I hereby establish the Mayor's Task Force on Energy Efficiency and Climate Change, with the following purposes:

1. To explore opportunities and identify best short- and long-term strategies for reducing energy costs, consumption, and reliance on fossil fuels, through energy efficiency, conservation, and renewable energy generation, within City Operations, the Frankfort Electric and Water Plant Board, and the wider community;

2. To recommend best strategies for meeting the City's commitments under the Mayor's Agreement for Climate Protection.

Focusing on Energy

World wide concern over climate change has brought a great deal of attention to the question of how we produce and use energy. Transitioning away from fossil fuels and dramatically increasing energy efficiency in our buildings, transportation system, and industry are central to the effort to address climate change. The Task Force focused largely on these issues due to their primary influence on global warming. It is important to recognize that fossil energy is embedded throughout our economy. Everything we purchase and consume has an energy budget that goes along with it. It takes energy to manufacture, transport, and dispose of everything we use on a daily basis. Therefore choices about goods and materials we use that do not seem related to energy, like whether to buy food from local farmers or from other states, are in fact very important pieces of the climate change puzzle.

Agriculture, forestry, and land conservation are also related to the climate change challenge. Forests store carbon and deforestation releases it into the atmosphere. Certain agricultural practices effectively store carbon, while others are major contributors of greenhouse gas emissions. The Task Force did not explore these important issues, but they are topics that may surface in the future as the City and community work to deal with climate change.

This challenge of climate change could be overwhelming, but for the fact that the measures needed to reduce our greenhouse gas emissions are worth doing for many other reasons. Increasing energy efficiency and developing renewable energy resources has numerous social benefits. It lowers the cost of living, creates new employment, increases personal and national energy security, reduces air and water pollution, and improves public health, to mention but a few of these benefits.

REVIEW OF THE FINDINGS OF THE TASK FORCE

The Task Force held six meetings between July and November, 2007. Members of the Task Force included representatives of the City staff, the Frankfort Plant Board, Kentucky State University, local business-owners, local non-profit organizations, the public schools, and private citizens. The Task Force meetings were open to the public and were announced in the local newspaper and via email, and several members of the public attended each meeting. Please see Appendix I for a complete list of Task Force members.

Energy Efficiency & Conservation

The first meeting dealt with opportunities for improving energy efficiency and conservation within the city and community. A review of energy efficiency programs and case studies from around the United States revealed that tremendous energy and cost savings can be achieved through such programs. Austin, Texas, for example, has saved over $200 million through energy conservation programs since 1992. Syracuse, NY, reduced energy use in city operations 20% from 2000 to 2006. Portland, Oregon reduced their carbon emissions 12% between 1990 and 2004 while saving businesses and homeowners a combined $300 million through energy saving initiatives.[1] The University at Buffalo has employed Energy Saving Performance Contracts to save over $100 million in energy use since the 1990's.[2] Examples such as these have been repeated again and again and illustrate a point made in a report by the American Solar Energy Society in 2007: the US could cut its carbon emissions 60 – 80% by 2030 using existing

technologies, and over half of those savings could come from energy efficiency. (The other half would be provided by renewable energy sources.)[3]

Energy Management Plans are critical tools for institutions to use in order to achieve long-term energy savings. Eddie Riddle, co-chair of the Task Force, made a presentation explaining how an Energy Management Plan works. The Plan would be developed and implemented by an Energy Management Team consisting of City Staff, possibly with the assistance of outside consultants. It would be an ongoing program within City operations, to develop and manage efforts to conserve energy and improve energy efficiency. Numerous resources are available to assist the City in this effort, including the Kentucky Pollution Prevention Center (KPPC), a state-funded institute at the University of Louisville that offers free technical assistance to institutions and businesses interested in developing Energy Management Plans, and the Energy Services Coalition.

City records indicate that Frankfort's combined electricity and heating bills totaled $890,560 from July 2006 through June 2007, an average of $74,213 per month. Total costs for gasoline purchases amounted to $606,715 over this same period. The Task Force believes that an EMP could easily reduce City energy costs by at least 10% within the first year, through a variety of low cost and no cost measures. These would include an analysis of energy bills for all city buildings, an outreach and education campaign among City employees, measures to turn off lights, computers, and other equipment when not in use, and energy assessments for City facilities.

An EMP would seek to implement such low-cost/no-cost measures and also capital-intensive measures such as building renovations and higher efficiency standards for construction of new City buildings. Energy Saving Performance Contracting is a valuable tool for assisting the City to finance and implement building renovations. A Performance Contract enables the City to pay for energy efficiency improvements to buildings using the money saved on their utility bills. Under this model, potentially millions of dollars of facility improvements can be achieved with little or no up-front costs to the City – the project is financed in such a way that the monthly payments are paid for by the utility bill savings.

Utility-Based Energy-Saving Programs

During our second meeting the Task Force looked into measures utility companies have taken to help their customers save energy and met with representatives from the Frankfort Plant Board. Many utilities around the country have implemented very successful programs to help their customers reduce their energy demand. In many cases such programs are implemented to help the utility avoid the need to build new power plants. Such programs can also be motivated by utilities foreseeing rising energy costs and the burden this can place on their customers. In recent times, many utilities are also beginning to respond to the threat of climate change and the prospect of carbon emissions becoming regulated, which will drive up the cost of energy and also the cost of building new power plants.

The Task Force heard case studies about two small electric utilities that have successful conservation programs. The Burlington Electric Department in Vermont serves 18,578 customers. In 1990 Burlington voters approved a bond to fund energy efficiency measures. In the past 16 years over $32 million has been spent in Burlington on energy efficiency measures, about half from the Electric Department and the other half in matching funds from customers. The result: in 2006, annual electricity consumption was the same as in 1989. Over 9 million kWh of energy were saved, at a cost of 1.2 cents per kWh.[4]

The Osage Municipal Utility in Osage, Iowa has 2,100 customers. Between 1974 and 1991, OMU has saved their customers over $11 million in energy costs. Their purpose was to control energy costs for their customers and delay the construction of new generation capacity. A variety of programs have been used over the years to encourage efficiency and conservation. Key elements have included infrared photography of all buildings in Osage to observe actual heat loss and identify priority places in need of help, community education and building trusting relationships between the utility and customers, and having all OMU staff involved and knowledgeable about their conservation programs. Their average cost for energy saved was less than 1 cent per kWh.[5]

Rodney Simpson, Electrical Superintendent for the Frankfort Electric and Water Plant Board, and Herbbie Bannister, Assistant General Manager of the Plant Board, attended our second meeting and joined in the discussion about utility-based conservation programs. They stated that the Plant Board does not have any formal programs to help their customers save energy, but that they are always willing to speak with customers when they call seeking assistance. They have assisted large utility customers with energy audits and this year developed a net metering tariff to allow customers to connect renewable energy systems to the power grid.

There was a discussion about whether the Plant Board would support efforts to help their customers consume less electricity, since they earn revenue from electricity sales. Rodney Simpson explained that the Plant Board is a non-profit utility company owned by the City which exists to provide services to the community, not earn a profit for shareholders. From a financial standpoint, the Plant Board faces costs associated with expanding their electrical infrastructure to support increasing customer demands. If demand-side management programs could prevent the need to expand this infrastructure, this could be financially beneficial to the Plant Board.

Simpson explained that the staff serves under the guidance of the Board of Directors. If the Board were to identify energy efficiency and conservation programs as a priority, the staff would develop such programs and would be glad to do so. In the summer of 2007 the Board added a new policy statement to their annual budget which states:

"FPB is committed to be cognizant of the environment and to conduct business in a way to preserve it. Green Energy programs will be investigated and implemented where feasible. Utilization of hybrid vehicles will be evaluated in an effort to reduce carbon emissions. FPB will work with local government to develop strategies to be a more energy efficient community."[6]

An amendment was also passed which stipulated that the staff would provide the board with reports on what green programs were investigated and if applicable, implemented; including an evaluation of the hybrid vehicle program; and include in the report how staff worked with local government(s) in developing strategies to make our community more energy efficient.

Simpson and Bannister stated that the FPB stands ready to work with any efforts that come out of the Task Force and that they're proud to be part of a hometown utility and part of the community.

Transportation

The transportation sector consumes 28% of the energy used in America and is a key area to work on as Frankfort works to reduce our greenhouse gas emissions (FOOTNOTE). The Task Force received a presentation by Michael Bomford about the work of Walk-Bike Frankfort, a local group that is developing plans for creating walking and biking corridors throughout

Frankfort, to make Frankfort a truly walkable and bikeable community. Walk-Bike Frankfort involves the participation of many citizens and City staff and has held multiple forums around the City to involve citizens in the development of their plans. The group has identified dozens of important areas for developing walking and biking corridors and has established a list of priority projects for the immediate future. They are now pursuing grants to enable the development of these projects.

Brent Sweger, a representative of EnvisionFranklinCounty and also Walk-Bike Frankfort, presented to the Task Force concerning important issues related to improving Frankfort's transportation system and reducing the energy impacts of transportation. He identified three ways for planners to reduce the energy consumed by transportation:

1) Reduce the number of vehicle miles traveled
2) Reduce the number of vehicles
3) Reduce delays and idling time

He then discussed how land-use planning impacts energy used for transportation. First, land-use patterns will increase fuel use if there is low density and segregation of uses. The solution is to develop codes and incentives for high density and mixed used development.

Second, improved road systems can enable more efficient driving and travel patterns, reducing traffic, delays, and idling times. This includes both the planning and building of more collector roads and modifying existing arterials so that they operate with less delay (through retiming signals, roundabouts, and access management.) The other key element to having a functioning road system is to provide for connectivity within and between new developments.

Third, transit-oriented development makes it easier for people to choose public transportation, but Frankfort's current land-use and development patterns don't effectively support mass transit. High-density, mixed-use development also supports mass transit. Greater investments are needed to develop an effective transit system.

Fourth, a walk/bike network is needed to support the more widespread use of non-motorized travel.

Each of these factors can be influenced by the Comprehensive Plan and supporting regulations, which are presently being re-written. While the media gives much attention to alternative fuels, more fundamental improvements to our transportation system and community planning will enable more significant reductions in the consumption of transportation fuels. The re-writing of the Comprehensive Plan and Zoning Ordinances offers us the opportunity to encourage these elements.

Renewable Energy

James Bush of the Governor's Office of Energy Policy met with the Task Force to discuss options for developing renewable energy resources in Frankfort. One of the first issues he noted was the need to have regulations in place that support the development of renewable energy resources and the ability to supply them to the local utility grid. The Frankfort Plant Board has taken important steps in this direction by creating a net metering tariff, which allows small-scale renewable energy systems (e.g. residential solar electric) to connect to the power grid and be credited for any excess power generated. There may be other regulatory issues that could impact the ability for people to develop renewable energy resources in the area, and the City should remain open to addressing any barriers that exist.

The potential renewable energy resources available in Franklin County include solar, woody biomass, landfill gas, biofuels, hydro-electric, wind, and combined-heat-and-power. The

Kentucky Solar Partnership is a non-profit organization based in Frankfort and is available to assist the City, local residents, and businesses interested in developing solar energy projects. Solar energy can be used for home heating, water heating, lighting, and electricity generation. The use of solar energy is growing rapidly around the US and the world, and here in Kentucky, as well.

A number of local entrepreneurs are working to develop projects to use wood waste and woody crops like willow to generate electricity in small-scale power generators. Biofuels such as biodiesel, waste vegetable oil, and ethanol are being produced within Kentucky and can be used to reduce the use of petroleum fuels. Riley Oil on Leestown Rd. is a local supplier for biodiesel.

The Franklin County Landfill is listed by the US Environmental Protection Agency as a "candidate site" for a methane recovery facility that could generate electricity or useable fuel from methane, which would otherwise be released into the atmosphere or flared off. As methane is a much more potent greenhouse gas than carbon dioxide, burning the methane to produce energy is preferable to simply releasing it into the atmosphere. For this reason, landfill gas facilities are considered a source of "green" power.[7]

Franklin County may also have good sites for developing small-scale hydro-electric projects. Idaho National Laboratories maintains a national hydro-power resource center with information specific to Franklin County available. There is at least one company in Kentucky that develops small-scale hydro projects, Soft Energy Associates, who would be a potential resource for the City.[8]

Wind energy is one of Kentucky's least-abundant renewable resources. Sites with good potential for generating wind energy are highly dependent on the local climate and geography. The Governor's Office of Energy Policy is currently preparing a study of Kentucky's wind resources which will assist landowners to identify good potential sites. However, it is unlikely that Franklin County has sites suitable for large-scale wind energy projects.

Combined heat and power (CHP), also know as cogeneration, refers to the production of electricity and thermal energy (heat) from a single fuel source, which can greatly increase the efficiency of a facility and reduce greenhouse gas emissions. CHP systems can be added to existing factories or power plants, and often capture waste heat for doing useful work. There may be opportunities for using CHP within both the public and industrial sectors in Franklin County.

Purchasing green power is another option for the City. Electric utilities such as KU and East Kentucky Power Cooperative now enable customers to purchase power certified to come from a clean energy source, such as landfill gas or wind. The City would have the option of purchasing green power as a means to reducing the greenhouse gas emissions and other harm that results from the production of electricity from coal.

Mayor's Agreement for Climate Protection

As signatories to the US Mayors Climate Protection Agreement, Frankfort has made a commitment to take serious measures to reduce greenhouse gas emissions within our community. Over 600 cities have now committed to this agreement, but each city sets its own goals and strategies for achieving them. The basic commitment is to set a goal for reducing local greenhouse gas emissions and to engage in a process to achieve that goal.

ICLEI- Local Governments for Sustainability, is an organization that offers technical support to the cities working for climate protection. ICLEI lays out a five-step process:

1. **Conduct an inventory of your baseline GHG emissions**. Based on energy and waste data, the city calculates greenhouse gas (GHG) emissions for a base year (e.g. 1990) and a forecast year (e.g. 2015). These are calculated for all municipal operations and community-related activities.
2. **Adopt an emissions reduction target for the forecast year.** The City Commission passes a resolution adopting an emissions reduction target for the City.
3. **Develop a Local Action Plan.** The local government develops a Local Action Plan that describes the policies and measures that the local government will take to reduce greenhouse gas emissions and achieve the emissions reduction target.
4. **Implement policies and measures.**
5. **Monitor and verify results**. This is an ongoing process which leads to the improvement of programs and policies.

ICLEI has software available to assist with tracking all of this information.

The Task Force discussed the importance of involving partners from throughout the community as a means to achieve these goals. The City can play a leadership role to invite other major institutions and resource users to join in this process, and can lead by example. Among the major institutions that need to be involved would be Kentucky State University, the City and County Public Schools, the Frankfort Electric and Water Plant Board, County government, and State government. As the largest energy user in the City, State government would be a very important partner in this process.

KSU could play a valuable role in assisting with the research needed to establish the baseline GHG emissions numbers. This research will also help us to understand what sectors are responsible for the greatest GHG emissions in our community, and therefore where the highest priorities for action are.

Partnership for a Green Community

The Task Force discussed the best means for carrying forward this work and implementing projects with the goals of reducing energy use and greenhouse gas emissions. Russ Barnett, Director of the Institute for the Environment and Sustainable Development at the University of Louisville, made a presentation about Jefferson County's Partnership for a Green City. The Partnership includes the Metro County government, the Public Schools, and the University of Louisville.

Jefferson County's three partners work together on a wide range of projects focused on increasing environmental sustainability in Jefferson County. Energy and climate change issues are important parts of their mission, but they work on other environmental and public health issues, as well. Some of the projects they have implemented include bulk purchasing of recycled office paper, which enabled them to negotiate lower prices than if they had purchased separately; negotiation of a lower-cost waste hauling contract to serve all three institutions; development of solar energy projects on facilities for each of the partners, using a single pool of grant funds and shared technical expertise; and public education programs.

The Partnership offers a number of advantages to the institutions involved. By working together they can learn from one another and share best practices more easily. Each of these institutions consumes a large amount of resources. By combining their efforts, they can negotiate better deals on contracts for goods and services. The institutions can share resources, especially technical expertise, to help one another improve operations and achieve common goals. The Partnership enables more effective educational outreach when all three

institutions work together to get a message out to the community. The Partners also work together to acquire grants and other funds to implement projects. By involving the University and schools, the Partnership also involves students in many of their activities, including research projects.

Jefferson County's Partnership for a Green City has had many successes and has inspired other cities to create their own Partnerships, including Lexington and Cincinnati.

Conclusions

The work of the Task Force comes at a time of ever-increasing concern about the risks of climate change and rising energy costs. Public concern about the state of the environment has perhaps never been greater, and we see significant signs of change at all levels of society, from global and national institutions to the acts of local governments and individuals in their homes. Over the course of four months the Task Force learned that the challenges presented by climate change also present numerous opportunities to improve our community through investments in energy efficiency, conservation, renewable energy, and development patterns that will not only save energy but create a healthier community.

As the 592nd city to commit to the Mayor's Agreement for Climate Protection, Frankfort has the benefit of learning from the thousands upon thousands of programs that have been implemented across the country in the effort to reduce energy use and move our economies away from fossil fuels. There are countless case studies of cities, businesses, and homeowners who have made commitments to efficiency and renewables and have reaped great benefits in the years that followed.

We are firmly convinced that continuing the work of the Task Force, with the goals of significantly reducing our community's energy use and greenhouse gas emissions, is the most prudent course for City leaders to take, from both an environmental and economic standpoint. To turn away from this task would leave our community open to greater future risks, when global forces and the regulation of carbon emissions cause energy prices to rise to previously unknown levels. Even before those increases come, however, there are enormous savings to be found if we dedicate ourselves to the task.

The Task Force recognizes the public's demand for real leadership by local, state, and federal officials with regard to these issues. Citizens are already leading the way by taking steps in their own homes to increase energy efficiency and decrease their environmental footprint. They now expect action from the public sector.

LOCAL STRATEGIES FOR SAVING ENERGY AND REDUCING CARBON EMISSIONS

A wide range of measures are needed by the City and other community partners to achieve the goals set forth in this report. There are many things the City can do within its own operations and to encourage progress in the wider community. The more participation there is from the wider community, including other governments, organizations, and individual citizens, the greater will be the energy savings and environmental benefits. In the following section we present four broad recommendations for the City Commission, followed by a list of strategies. These strategies are directed towards the City but many could clearly be implemented by other institutions, or will require participation of others in order to be successful.

RECOMMENDATIONS

1. **Endorse the US Mayors Agreement for Climate Protection and commit the City to an ongoing effort to increase energy efficiency and reduce greenhouse gas emissions within City operations and the wider community.** A clear commitment from the City Commission is needed to provide guidance to staff and to ensure that serious, effective action is taken over the long term.

2. **Establish a City Sustainability Coordinator.** The City should dedicate a staff person (the City Sustainability Coordinator) charged with coordinating the City's efforts to reduce energy use and meet the City's commitments under the US Mayors Agreement for Climate Protection. The Task Force expects this position to pay for itself within one year through energy savings and reduced utility bills. Annual energy savings would provide an ongoing revenue stream to support the position. Without a dedicated staff person, the City's efforts in these areas would be significantly limited and long-term energy savings would be greatly reduced. The Coordinator would make regular progress reports to the City Commission.

3. **Create a City Energy Team to develop and implement an Energy Management Plan**. The City should form an internal team comprised of staff from each department and coordinated by the Sustainability Coordinator, to develop an Energy Management Plan for City operations and all City agencies. Invite staff from the Frankfort Plant Board to participate on the Energy Team and assist with the EMP. The EMP will set goals for reducing energy use and costs within City operations. The initial target will be to reduce energy use 10% by 2009, which would save the City approximately $150,000 per year. Resources to support development of the Energy Management Plan include the Kentucky Pollution Prevention Center, Task Force Co-Chair Eddie Riddle, the national Energy Services Coalition, and Andy McDonald of Appalachia - Science in the Public Interest.

4. **Invite other local institutions to work with the City to create a Partnership for a Green Community and develop a Community Climate Action Plan.** These institutions would include Franklin County government, City and County Public Schools, Kentucky State University, Kentucky State Government, and the Frankfort Electric and Water Plant Board, along with local residents and community organizations. The members of the Partnership would work together, sharing knowledge, learning, and resources, to implement energy-saving programs and other initiatives to enhance local sustainability, for the benefit of the entire community. One of the primary tasks of the Partnership would be to develop a Community Climate Action Plan. (See Appendix B for more details about the Climate Action Plan.)

STRATEGIES FOR REDUCING ENERGY USE AND GREENHOUSE GAS EMISSIONS

A. Encourage the Frankfort Electric and Water Plant Board to play an active role assisting the City and community to reduce energy use and carbon emissions. As our local electric and water utility, the Plant Board can play a very important role in the effort to reduce energy use and carbon emissions. The Plant Board should be encouraged to develop effective programs and incentives to help customers reduce energy use, improve energy efficiency, and expand the use of renewable energy in the community.

B. Utilize Energy Saving Performance Contracts to enable substantial energy efficiency improvements to City facilities. Performance contracts finance the costs of energy improvements using the money saved through the improvements. They can achieve large energy and financial savings with little or no up-front capital investment for the client. They are an important tool for local governments and other large institutions.

C. Support the development of renewable energy resources within City operations and the wider community. Investigate opportunities for the City to use renewable resources on its own facilities, for example, by using solar water heating on suitable City buildings. Study the potential for developing renewable energy projects at the Benson Valley Landfill, at potential micro-hydroelectric sites, and at other sites in the wider community.

D. Specify that all new construction and major renovations of City facilities meets high energy efficiency standards, using the US Green Building Council's Leadership in Energy and Environmental Design (LEED) green building rating system or a similar system as a guide. LEED is the most widely used green building standard in the United States. Encourage other institutions and private builders to build to these standards, as well.

E. Use land-use planning as a tool to encourage development, community design, and a transportation system that reduces fuel consumption and dependence on fossil fuels and passenger vehicles. Development and land-use patterns will have significant long-term effects on transportation patterns and fuel demands. Encourage the Comprehensive Plan Update Committee to incorporate the mission of the Task Force into the Comprehensive Plan Update Process. The Comprehensive Plan can help to promote policies that encourage

reduced demands for transportation fuel by reducing the number of vehicle-miles traveled, lowering the number of vehicles on the roads, reducing delays, and reducing idling times. This can be achieved through:

- Land-use patterns that promote higher density and mixed use developments.
- Improved road systems.
- Transit-oriented development.
- A Walk/Bike network.
- Improved efficiency of existing roads

F. Develop policies and procedures for purchasing and operations that support energy efficiency and environmental stewardship. This would include:

- Develop model specifications for purchasing to make it easier for offices to choose environmentally-preferable goods and services. For example, create specifications for vehicles with the lowest life-cycle cost and carbon emissions. Sharing these model specifications and policies among Partners can be one of the valuable benefits of working together in a partnership.
- Specify the use of Energy Star-rated appliances and equipment.
- Establish vehicle purchasing policies to increase the purchase and use of fuel-efficient vehicles. Vehicle selection criteria should include life-cycle cost assessments which factor in the cost of fuel for operating the vehicle over its life-cycle, not simply the purchase price. Implement policies that require the use of appropriately-sized vehicles for each task (to reduce the use of large trucks, for example, simply for transporting an individual to a meeting).
- Review and implement policies to reduce idling times for buses, police cars, service vehicles, road maintenance vehicles, and other City vehicles. Many schools are now restricting idling times for school buses to just a few minutes, saving fuel and reducing children's exposure to air pollutants.

TIMELINE

If the City Commission is prepared to move forward with these recommendations, Andy McDonald and Eddie Riddle, Co-Chairs of the Task Force, have offered their continued services to assist the City and community with these efforts.

Officially endorse Task Force recommendations and US Mayors Agreement for Climate Protection	December '07
Direct City staff to form an Energy Team to develop and implement an Energy Management Plan.	January '08
Allocate funding to hire a City Sustainability Coordinator.	January '08
Ask the Comprehensive Plan Update Committee to consider the City's commitment to the US Mayors Agreement for Climate Protection and this report of the Task Force in their Update process.	January '08
Ask the City Office of Planning and Zoning and the Planning and Zoning Commission to consider the City's commitment to the US Mayors Agreement for Climate Protection and this report of the Task Force in their work.	January '08
Invite local institutions to create a Partnership for a Green Community.	December '07 - February '08
Invite KSU to begin research to develop a local greenhouse gas emissions inventory and forecast and direct staff to work with KSU on this project.	January '08 – September '08
Hire City Sustainability Coordinator.	April '08
Work with Partners to develop Community Climate Action Plan.	September '08 – January '09

RESOURCES

ICLEI – Local Governments for Sustainability
www.iclei.org

Kentucky Pollution Prevention Center
www.kppc.org

Mayors Climate Protection Center
www.usmayors.org/climateprotection/

Mayors for Climate Protection
www.coolmayors.com

FOOTNOTES

1. The Climate Group – http://theclimategroup.org/index.php/reducing_emissions/case_studies/

2. UB Green Office, State University of New York at Buffalo, Comprehensive Report on UB's Energy Conservation Program (1996), http://wings.buffalo.edu/ubgreen/content/programs/energyconservation/reportenergyconsv.html, and personal communication with Walter Simpson, Director, UB Green Office.

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8. David Brown Kinloch is the President of Lock 7 Hydro Partners and a partner of Soft Energy Associates which develops small scale hydroelectric projects. They restored the hydro dam at Lock 7 on the Kentucky River near Shakertown.

Appendix A

Members of the Mayor's Task Force on Energy Efficiency and Climate Change

Michael Bomford, Kentucky State University
Mitch Buchanon, Capital City Home Inspections
Rich Crowe, Frankfort Public Schools
Steve Dawson, Budget Director, City of Frankfort
Maya DeRosa, Planning Supervisor, City of Frankfort
Andy McDonald, Appalachia - Science in the Public Interest
Jim McWilliams, Local citizen
Charlie Preston, Franklin County Public Schools
Eddie Riddle, Local citizen
Bob Tillet, Public Works, City of Frankfort
Anne Wingrove, Board of Directors, Frankfort Electric and Water Plant Board

Appendix B

A COMMUNITY CLIMATE ACTION PLAN

A Community Climate Action Plan would be developed by the members of the Partnership. It would have five main steps:

1. **Conduct a baseline greenhouse gas (GHG) emissions inventory and forecast.** Invite KSU to assist with this research, which will enable the Partnership to track progress and establish priorities based on largest local emissions sources.

2. **Establish targets for reducing the community's GHG emissions 10 % by 2011, with a long-term target of 80-90% reductions by 2050.** Emissions reductions targets are in reference to the baseline year of 1990.

3. **Develop a Local Action Plan.** This Plan will detail policies and measures that the City, citizens, and other partners will take to meet the targeted reductions.

4. **Implement Policies and Measures.**

5. **Monitor progress and verify results.** Lessons learned from monitoring progress should lead to changes in policies and programs to improve outcomes.